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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/464,363	12/15/1999	DAVID R. IRVIN	8194-364	7440

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EXAMINER

NOBAHAR, ABDULHAKIM

ART UNIT	PAPER NUMBER
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2132

DATE MAILED: 11/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/464,363

Applicant(s)

IRVIN, DAVID R.

Examiner

Abdulhakim Nobahar

Art Unit

2132

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-13, 16-34 and 37-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Laubach et al. (6,028,860) (hereinafter Laubach).

3. Regarding claims 1, 3, 5, 24 and 28, Laubach discloses bi-directional communication system that encrypts the messages and then transmits the messages with a header error check (HEC) to an addressed destination (see, for example, column 3, lines 7-19, column 4, lines 1-7, column 8, line 51-column 9, line 15, column 17, lines 40-46 and Fig. 4). The proper encryption key is determined from a table of encryption keys for the intended destination group or an individual destination station (Fig. 4, Table 408) and a HEC (or cyclical redundancy check, CRC) is generated for each individual unencrypted message (ATM cell) by a forward error correction processor. This processes are also executed at the receiving end to determine the proper encryption key and the HEC (see, for example, Fig. 5). The combined serial stream of encrypted ATM cell-based message and its HEC is converted to a radio frequency (RF) signal. Laubach discloses that the RF signal is sent to the intended destinations according to their virtual path identifier (VPI) (see, for example, column 8, lines 29-31) via unicast (for

individual station), multicast (for a group of stations), or broadcast (for all stations) on an RF channel with associated address.

4. Regarding claims 2 and 29, Laubach discloses that the destination address is a broadcast address (see, for example, column 12, line 63-column 13, line 7).

5. Regarding claims 4 and 31, Laubach discloses that the HEC is an indication of redundancy bit rate for each individual message (see, for example, column 5, lines 35-41, column 8, lines 63-65 and column 9, lines 21-26 and column 17, lines 50-56).

6. Regarding claims 6-8, 32 and 33, these claims are rejected as applied to the like elements of claim 1 above and further the following: Laubach discloses that the head-end facilitates a variety of services including prioritizing the received messages before transmission and identifying one or more receiving subscribers (see, for example, column 4, lines 1-10, column 7, lines 18-48, column 18, lines 27-46 and column 18, lines 63-column 19, line 6). The messages are sent to the respective destinations based on the specified upstream virtual connection, destination station ID and destination address. This indicates that the head-end has the capability to transmit messages without encryption for those destinations that do not require to receive encrypted messages.

7. Regarding claims 9, 17, 21-23, 26, 38 and 42-44, Laubach discloses a bi-directional system for RF signals to be transmitted between a head-end and destination station(s) according to that embodied by claim 1. Further, Laubach discloses that after the encrypted message and the accompanying error check value are received at the destination station(s), the receiving subscriber terminal unit (STU) determines the

encryption key associated with the destination address, from a table similar to the process at the message transmitting end in order to decrypt the encrypted message (see, for example, column 9, lines 16-32 and Fig. 5). A header error check (HEC) is computed to be compared with the HEC received with the encrypted message. This process is executed to determine whether an error exists or not. The decrypted message then can be sent (corresponding to the recited assigning or processing the message) to the intended computer(s) (corresponding to the recited group associated with the group encryption key).

8. Regarding claim 10, Laubach discloses that at the head-end, the type of service is determined (unicast, multicast or broadcast) and the associated encryption key is selected from a table of encryption keys (see, for example, column 8, line 55-column 9, line 15).

9. Regarding claims 11, 19 and 40, Laubach discloses that at the receiving destination an encryption key is selected from a plurality of keys in a table, the encrypted message is decrypted and an error check value is generated for the unencrypted message in order to determine an error exists for the message or not (see, for example, column 9, lines 15-32).

10. Regarding claims 12, 13, 18, 25, 27 and 39, Laubach discloses a bi-directional communication system (see, for example, column 5, lines 14-21) that keeps a table of encryption keys for each destination address and for each multicast group (see column 19, lines 2-7 and lines 49-51) and that a station (corresponding to the recited user) can

request resources including an encryption key from the head-end (see, for example, column 3, lines 37-44).

11. Regarding claim 16, this claim is rejected as applied to the like elements of claims 9, 12 and 13 above.

12. Regarding claims 20 and 41, these claims are rejected as applied to the like elements of claims 4 and 9 above.

13. Regarding claim 30, this claim is rejected as applied to the like elements of claim 3 above.

14. Regarding claim 34, this claim is rejected as applied to the like elements of claim 12 above.

15. Regarding claim 37, this claim is rejected as applied to the like elements of claim 16 above.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 14, 15, 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laubach et al. (6,028,860) (hereinafter Laubach) in view of MacLellan et al (6,130,623) (hereinafter MacLellan).

18. Regarding claims 14, 15, 35 and 36, Laubach discloses that a table of encryption keys is kept for each destination address and for each multicast group (see column 19, lines 2-7 and lines 49-51). However, Laubach does not expressly disclose that the encryption keys are updated periodically or upon expiration of a group encryption key duration.

MacLellan teaches a system for transmitting encrypted RF signals to receiving tags that updates the encryption algorithm whenever a new generation of the system software is released (see column 6, lines 22-28). Updating encryption algorithm, naturally necessitates to update the encryption key(s), because more powerful microprocessors become available and the hackers use stronger tools.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to implement a mechanism for updating the encryption key(s) whenever is necessary as taught in MacLellan, in the system of Laubach, because it would make the interception and the subsequent illegal use of RF signals at least as difficult as for present day ATM cards (column 2, lines 29-32).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. 6,137,793 to Gorman et al.

US Patent No. 6,324,395 B1 to Khayrallah et al.

US Pub. No. 2003/0007465 A1 to Artzi.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abdulhakim Nobahar whose telephone number is 703-305-8074. The examiner can normally be reached on M-F 8-5.

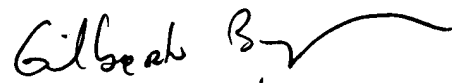
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 703-305-1830. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Abdulhakim Nobahar
Examiner
Art Unit 2132



AN
October 2, 2003



GILBERTO BARRON
SUPERVISORY PATENT EXAMINER
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